

AMENDMENTS TO THE CLAIMS

1 (currently amended). A serpentine ~~conductive~~ heat sensor path comprising:

a plurality of generally parallel temperature-sensitive sensor wires running generally perpendicular to a plurality of heating wires and electrically insulated therefrom and within a distance sufficient to sense heat generated by said heating wires;

a pair of conductive sensor busses running generally parallel to one another and generally perpendicular to said sensor wires;

wherein said sensor wires are electrically connected to said sensor ~~conductive~~ busses; and

wherein said ~~conductive~~ sensor busses further comprise a plurality of isolation punches so as to form an electrically conductive serpentine pattern in conjunction with said sensor wires.

2 (currently amended). The apparatus of claim 1 wherein said sensor wires and sensor busses are incorporated into a woven substrate.

3 (currently amended). The apparatus of claim 2 wherein said sensor wires and sensor busses are woven into said woven substrate.

4(canceled). The apparatus of claim 1 wherein said sensor wires are temperature sensitive.

5 (currently amended). The apparatus of claim 1 ~~–4~~ wherein said sensor wires have a positive temperature coefficient of resistivity.

6 (currently amended). The apparatus of claim 1 wherein said sensor wires are crimped to said sensor busses.

7 (currently amended). The apparatus of claim 1 wherein said sensor wires are welded to said sensor busses.

8 (canceled). The apparatus of claim 3 wherein said wires are temperature sensitive.

9 (currently amended).The apparatus of claim 3 ~~-8-~~ wherein said sensor wires have a positive temperature coefficient of resistivity.

10 (currently amended).The apparatus of claim 3 wherein said sensor wires are crimped to said sensor busses.

11 (currently amended).The apparatus of claim 3 wherein said sensor wires are welded to said sensor busses.

12 (currently amended).The apparatus of claim 3 wherein said woven substrate is an electric blanket.

13 (currently amended).The apparatus of claim 3 further comprising a plurality of heating busses in electrical conduction with ~~a plurality of~~ said heating wires.

14 (currently amended).The apparatus of claim 13 wherein one of said heating busses is in electrical conduction with one end of the serpentine conductive path.

15 (currently amended).A method of manufacturing a woven substrate having a serpentine ~~conductive~~ heat sensor path therein, comprising the steps of:

- weaving the woven substrate of an electrically non-conductive material;
- weaving into the woven substrate a plurality of generally parallel temperature-sensitive sensor wires;
- weaving into the woven substrate a pair of conductive sensor busses running generally parallel to one another and generally perpendicular to said sensor wires;
- electrically connecting said sensor wires to said ~~conductive~~ sensor busses; and
- punching isolation holes into said ~~conductive~~ sensor busses so as to form an electrically conductive serpentine pattern in conjunction with said sensor wires.

16 (currently amended). The method of claim 15 further comprising the step of weaving into the woven substrate a heating element.

17 (currently amended). The method of claim 16 wherein said weaving of a heating element further comprises the steps of:

weaving into the woven substrate a plurality of heating wires;

weaving into the woven substrate a plurality of heating busses running substantially perpendicular to said heating wires and in electrical conduction therewith.

18. (new). The method of claim 15 wherein the sensor busses have different optical properties than that of woven substrate and are located by optical scanning in order to perform the punching operation.

19 (new). A method of manufacturing a woven substrate having a serpentine conductive path therein, comprising the steps of:

weaving the woven substrate of an electrically non-conductive material;

weaving into the woven substrate a plurality of generally parallel wires;

weaving into the woven substrate a pair of conductive foil busses running generally parallel to one another and generally perpendicular to said wires;

electrically connecting said wires to said conductive busses; and

punching isolation holes into said foil busses so as to form an electrically conductive serpentine pattern in conjunction with said wires.

20. (new). The method of claim 19 wherein the foil busses have different optical properties than that of woven substrate and are located by optical scanning in order to perform the punching operation.